

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
ON APPEAL FROM THE EXAMINER TO THE BOARD
OF PATENT APPEALS AND INTERFERENCES

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Appeal
Brief & fee
6-20-02

In re Application of: Ranjit N. Notani
Serial No.: 09/398,170
Filing Date: September 17, 1999
Examiner: Pedro R. Kanof
Group Art Unit: 2164
Title: SYSTEM AND METHOD FOR MULTI-ENTERPRISE
SUPPLY CHAIN OPTIMIZATION

Honorable Assistant Commissioner
for Patents
BOARD OF APPEALS AND INTERFERENCES
Washington, D.C. 20231

Dear Sir:

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APPEAL BRIEF

Appellant has appealed to the Board of Patent Appeals and Interferences from the decision of the Examiner mailed October 16, 2001, finally rejecting Claims 1-37. Appellant filed a Notice of Appeal on February 19, 2002. Appellant respectfully submits this brief on appeal, in triplicate, with a statutory fee of \$320.00.

REAL PARTY IN INTEREST

This application is currently owned by i2 Technologies US, Inc. as indicated by:
an assignment recorded on July 30, 2001 in the Assignment Records of the United States Patent and Trademark Office at Reel 012024, Frames 0918-0929; and
an assignment recorded on September 17, 1999 in the Assignment Records of the United States Patent and Trademark Office at Reel 010260, Frames 0066-0068.

RELATED APPEALS AND INTERFERENCES

There are no known appeals or interferences which will directly affect or be directly affected by or have a bearing on the Board's decision in this pending appeal.

STATUS OF CLAIMS

Claims 1-37 stand rejected pursuant to a Final Office Action mailed October 16, 2001. Claims 1-37 are all presented for appeal.

STATUS OF AMENDMENTS

All amendments submitted by Appellant were entered by the Examiner before the issuance of the Advisory Action mailed February 8, 2002. All pending claims are shown in Appendix A.

SUMMARY OF INVENTION

According to one embodiment of the present invention, a buyer computer 20 may communicate with a seller computer 40 and negotiate the terms of an electronic option contract. (*Page 9, Lines 3-5*). The option contract may, for example, include an option that identifies a minimum and maximum quantity of a product that can be bought by a buyer from a seller, a minimum and maximum number of products or product types that can be bought by the buyer from the seller, and/or a minimum and maximum number of delivery locations that can be used by the buyer and seller. (*Page 4, Lines 6-10; Page 24, Lines 13-20*).

The buyer computer 20 may include a procurement manager 34, and the seller computer 40 may include a supply manager 54. (*Page 10, Lines 13-17*). The procurement manager 34 and

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the supply manager 54 contain various modules that allow the buyer computer 20 and the seller computer 40 to negotiate the terms of an option contract. For example, forecast modules 112 and 212 may estimate the buyer's future demand for a product and/or the seller's future supply capacity of the product. (*Page 11, Lines 1-7*). Negotiation modules 114 and 214 may conduct negotiations between the buyer computer 20 and seller computer 40, such as by accepting a proposed contract term, making a counter-offer, or flagging an issue for user intervention. (*Page 11, Lines 13-18; Page 12, Line 30 – Page 13, Line 2*). Aggregation modules 116 and 216 may align and transform parameters being negotiated by the negotiation modules 114 and 214, such as by reordering product information so that both computers 20 and 40 use consistent information. (*Page 11, Lines 24-32; Page 15, Lines 10-15*). Option pricing modules 118 and 218 may estimate the value or cost of allowing a contract to include an option. (*Page 11, Line 27 – Page 12, Line 1*). Execution modules 119 and 219 may “execute” or agree to the terms of an option contract and store the terms of the contract in a memory. (*Page 12, Lines 7-10*). Exercise module 121 of buyer computer 20 allows the buyer to “exercise” or make use of the option in the option contract. (*Page 20, Lines 19-22*). Tracking modules 120 and 220 may monitor transactions between the buyer and seller and ensure that the terms of the final contract are followed. (*Page 12, Lines 11-14*).

STATEMENT OF ISSUES

Are Claims 1-37 rendered obvious by *Schmidt* and *Dictionary* under 35 U.S.C. § 103(a)?

GROUPING OF CLAIMS

Pursuant to 37 C.F.R. § 1.192(c)(7), Appellant requests that the following claims be grouped together for purposes of this appeal:

1. Group 1: Claims 1-11.

Claims 1-11 may be deemed to stand or fall together for purposes of this appeal. Claims 2-11 depend from Independent Claim 1.

2. Group 2: Claims 12-18.

Claims 12-18 may be deemed to stand or fall together for purposes of this appeal. Claims 13-18 depend from Independent Claim 12.

3. Group 3: Claims 19-27.

Claims 19-27 may be deemed to stand or fall together for purposes of this appeal. Claims 20-27 depend from Independent Claim 19.

4. Group 4: Claims 28-37.

Claims 28-37 may be deemed to stand or fall together for purposes of this appeal. Claims 29-37 depend from Independent Claim 28.

Appellant submits that the explanations provided in the Argument section do not merely point out differences between the claims but present arguments as to the separate patentability of each claim as required by 37 C.F.R. § 1.192(c)(7) and M.P.E.P. § 1206.

ARGUMENT

The rejection of Claims 1-37 over *Schmidt* in view of *Dictionary* is improper and should be withdrawn.

A. OVERVIEW

Claims 1-37 stand rejected under 35 U.S.C. § 103(a) as being obvious over European Patent Document EP0770967A2 ("*Schmidt*") in view of John Dowes et al., Dictionary of Finance and Investment Terms, Barron's Publisher, 1995 ("*Dictionary*"). A copy of *Schmidt* is provided in Appendix B. A copy of *Dictionary* is provided in Appendix C.

In the Final Office Action mailed October 16, 2001, the Examiner asserts that *Schmidt* teaches only one of five elements of Independent Claims 1, 19, and 28. (*Office Action, Page 3, First and second paragraphs*). The Examiner also acknowledges that *Schmidt* fails to teach every element of Independent Claim 12. (*Office Action, Page 8, Fourth paragraph – Page 9, First paragraph*). For each of these independent claims, the Examiner then asserts that the

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definitions of “option,” “exercise,” and/or “option price” in *Dictionary* teach the missing elements of the claims.

Appellant respectfully notes that the combination of *Schmidt* and *Dictionary* does not teach or suggest all elements of the claims. For example, the Examiner relies on definitions from *Dictionary* to teach elements such as “updating . . . the forecasted demand” and then “exercising the option in the option contract . . . based on the updated forecasted demand” as recited in Claim 1. However, the cited portions of *Dictionary* lack any mention of updating a “forecasted demand” or exercising an option “based on the updated forecasted demand.” Because *Dictionary* fails to teach or suggest all elements of the independent claims that the Examiner admits are not shown in *Schmidt*, all pending claims are patentable over the *Schmidt-Dictionary* combination.

B. STANDARD

The determination of whether an invention is obvious in view of the prior art considers “if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains.” 35 U.S.C. § 103 (emphasis added).

It is also important that the proper perspective be used in considering the invention in view of the prior art while conducting the obviousness/non-obviousness analysis. This analysis requires “casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field.” *In re Kotzab*, 217 F.3d 1365, 1369 (Fed. Cir. 2000). It is improper to use hindsight and “that which only the invention taught” to arrive at an obviousness rejection. *Id.*

C. THE SCHMIDT REFERENCE

Schmidt discloses a system that allows “various decision makers in the supply chain to view the chain from their own perspective, obtain information and evaluate decisions concerning past, current and future performance with respect to a diverse set of often conflicting goals.” (Page 3, Lines 9-11). In one aspect of operation, the system of *Schmidt* generates replenishment

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orders for a product. (*Page 31, Lines 39-47*). These replenishment orders are generated under a VMR arrangement, which stands for "Vendor Managed Replenishment." (*Page 31, Lines 41-42; Page 17, Line 48*). A VMR arrangement is a "logistics partnership agreement" where a vendor manages the inventory of a customer. (*Page 28, Lines 54-56*). The vendor determines when the customer's stock of a product needs to be replenished, rather than the vendor responding to orders from the customer. (*Page 28, Lines 56-58*). This VMR arrangement is routinely embodied in a contract between the vendor and the customer. (*Page 28, Lines 58-59*).

In the system of *Schmidt*, a VMR strategic planning module 252 uses "financial and business requirements" from a customer, along with other information, to evaluate different contract parameters. (*Page 28, Lines 35-39*). The contract parameters are then written to a VMR contract file 262. (*Page 28, Lines 39-40*).

Schmidt also provides analysis tools to help "study the feasibility of VMR programs; evaluate the terms of VMR contracts; and periodically review the overall performance of the VMR program." (*Page 29, Lines 9-11*). For example, *Schmidt* helps support a user's decision-making process by providing tools to evaluate the costs and benefits of different VMR program parameters. (*Page 30, Lines 19-23*).

D. THE DICTIONARY REFERENCE

Dictionary includes definitions of the terms "option," "exercise," "exercise notice," and "option price." In particular, *Dictionary* states that an "option" refers to the "right to buy or sell property that is granted in exchange for an agreed upon sum." (*Page 390, Left column, First paragraph*). Also, *Dictionary* states that an "exercise" refers to making "use of a right available in a contract." (*Page 173, Right column, Third paragraph*).

E. CLAIMS 1-11 (GROUP 1)

Claims 1-11 (Group 1) stand rejected under 35 U.S.C. § 103(a), as being unpatentable over *Schmidt* in view of *Dictionary*. Appellant respectfully submits that Independent Claim 1 is patentable over *Schmidt* and *Dictionary*, and thus the remaining claims in Group 1, which depend from Claim 1, are also patentable over *Schmidt* and *Dictionary*.

Claim 1 recites a method of optimizing multi-enterprise supply chain agreements using an electronic option contract, which includes:

- determining at a buyer computer a range of forecasted demand for a product;
- communicating from the buyer computer to a seller computer an offer to enter into an option contract for the supply of a product, the option contract including an option corresponding to the range of forecasted demand;
- executing the option contract;
- updating at the buyer computer the forecasted demand;
- and
- exercising the option in the option contract within the range of forecasted demand based on the updated forecasted demand.

Schmidt fails to teach or suggest communicating the terms of an option contract between two computers and allowing the computers to negotiate the terms of the contract. Instead, *Schmidt* describes how a vendor's system may monitor the inventory of a customer and control when the customer's inventory is replenished. Thus, *Schmidt* fails to teach or suggest at least the following elements recited in Claim 1:

- communicating . . . an offer to enter into an option contract for the supply of a product, the option contract including an option corresponding to the range of forecasted demand;
- executing the option contract; and
- exercising the option in the option contract.

The VMR strategic planning module 252 of *Schmidt* may receive and analyze financial and business requirements from a customer to evaluate different contract parameters. However, *Schmidt* completely fails to teach or suggest that the financial and business requirements include “an offer to enter into an option contract for the supply of a product, the option contract including an option corresponding to the range of forecasted demand.” Also, the contract parameters selected by the VMR strategic planning module 252 of *Schmidt* are simply stored in a database. There is no communication of the contract parameters between computers, and no negotiations involving the contract parameters occur. As a result, *Schmidt* fails to teach or suggest “communicating from the buyer computer to a seller computer an offer to enter into an option

contract” or “executing the option contract.”

Also, the analysis tools of *Schmidt* simply allow a user to perform certain tasks related to the VMR arrangement. Nowhere does *Schmidt* teach or suggest that the analysis tools are used to communicate from a buyer computer to a seller computer an offer to enter into an option contract, to execute the option contract, or to exercise the option in the option contract.

The Examiner asserts that several portions of *Schmidt* disclose allowing customers and vendors to “enter into electronic contracts with one another.” (*Final Office Action, Page 15, Last paragraph*).

First, Appellant notes that this is totally inconsistent with the Examiner’s admission that *Schmidt* fails to teach “communicating from the buyer computer to a seller computer an offer to enter into an option contract for the supply of a product, the option contract including an option corresponding to the range of forecasted demand; executing the option contract; updating at the buyer computer the forecasted demand; and exercising the option in the option contract within the range of forecasted demand based on the updated forecasted demand.” (*10/16/01 Office Action, Page 3, Third paragraph*).

Second, Appellant notes that none of the cited portions of *Schmidt* teach allowing parties to enter into electronic option contracts with one another. For example, the Examiner cites a “component procurement policy development module” of *Schmidt*. (*Page 1, Left column, Lines 20-21*). The component procurement policy development module in *Schmidt* determines which procurement policy to use when supplying a component to a customer. (*Page 28, Lines 9-14*). Possible policies include “Just in Time” and “Bulk purchase” policies. (*Page 88, Lines 49-50*). The Examiner also cites various “data spaces” used in *Schmidt*. (*Figures 15 and 22; Page 7, Line 56 - Page 8, Line 3*). The “data spaces” store information identifying the predicted customer demand for a product over time, (*Page 7, Lines 56-58*), the predicted production of a product over time, (*Page 7, Line 59 - Page 8, Line 3*), and the predicted amount of a product in inventory over time. (*Page 8, Lines 4-7*). Finally, the Examiner cites a Production-Sales-Inventory (PSI) function of *Schmidt*. (*Page 26, Lines 23-45*). The PSI functionality “ensures consistency among

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the production, sales and inventory plans and helps determine a feasible and appropriate PSI plan.” (*Page 26, Lines 10-11*).

Appellant notes that none of these portions of *Schmidt* teach or suggest “communicating . . . an offer to enter into an option contract,” “executing the option contract;” and “exercising the option in the option contract” as recited in Claim 1. For example, *Schmidt* never mentions that the policy selected by the component procurement policy development module is communicated between a buyer and a seller, that the buyer accepts the policy identified by the seller, or that the seller accepts the policy identified by the buyer. Also, *Schmidt* never mentions that the information in the data spaces is communicated between a buyer and a seller so that the buyer and seller can negotiate and accept the predicted customer demand, the predicted production, or the predicted amount of a product in inventory. In addition, *Schmidt* fails to teach or suggest that the consistent production, sales, and inventory information used by the PSI function is communicated between a buyer and a seller so that the buyer and seller can negotiate and accept the information. Thus, these portions of *Schmidt* necessarily fail to teach or suggest “communicating . . . an offer to enter into an option contract,” “executing the option contract;” and “exercising the option in the option contract” as recited in Claim 1.

Dictionary also fails to teach or suggest these elements of Claim 1. *Dictionary* merely recites that an “option” is a “right to buy or sell property that is granted in exchange for an agreed upon sum. If the right is not exercised after a specified period, the option expires and the option buyer forfeits the money.” (*Page 390, Left column, First paragraph*). *Dictionary* also recites that “exercise” refers to making “use of a right available in a contract. In options trading a buyer of a call contract may exercise the right to buy underlying shares at a particular price by informing the option seller. A put buyer’s right is exercised when the underlying shares are sold at the agreed-upon price.” (*Page 173, Right column, Third paragraph*).

Neither definition mentions “communicating from the buyer computer to a seller computer an offer to enter into an option contract for the supply of a product, the option contract including an option corresponding to the range of forecasted demand.” Also, neither definition

mentions “updating at the buyer computer the forecasted demand” and then “exercising the option in the option contract . . . based on the updated forecasted demand.”

For at least these reasons, the combination of *Schmidt* and *Dictionary* fail to teach or suggest all elements of Claim 1. As a result, Claim 1 is patentable over the combination of *Schmidt* and *Dictionary*. At a minimum, Claims 2-11 are also patentable over the combination of *Schmidt* and *Dictionary* due to their dependence from an allowable claim.

F. CLAIMS 12-18 (GROUP 2)

Claims 12-18 (Group 2) stand rejected under 35 U.S.C. § 103(a), as being unpatentable over *Schmidt* in view of *Dictionary*. Appellant respectfully submits that Independent Claim 12 is patentable over *Schmidt* and *Dictionary*, and thus the remaining claims in Group 2, which depend from Claim 12, are also patentable over *Schmidt* and *Dictionary*.

Claim 12 recites a method of optimizing multi-enterprise supply chain agreements using an electronic option contract, which includes:

- receiving at a seller computer terms of an option contract from a buyer computer, the terms comprising an option corresponding to a buyer's range of forecasted demand for a product;
- communicating to the buyer computer an acceptance of the terms of the option contract;
- storing the terms of the accepted option contract in a memory accessible to the seller computer;
- receiving from the buyer computer a request to exercise the option with the buyer's updated forecasted demand for the product; and
- enforcing the terms of the option contract at the seller computer without user input.

The Examiner acknowledges that none of these elements are taught by *Schmidt*. The Examiner then asserts that all of these elements are disclosed in *Dictionary* by the definitions of “option,” “exercise,” and “option price.” (*Final Office Action*, Page 9, First paragraph).

Appellant notes that the cited portions of *Dictionary* contain no mention of receiving

terms of an option contract at a seller computer, where the terms include “an option corresponding to a buyer's range of forecasted demand for a product.” Appellant also notes that the cited portions of *Dictionary* contain no mention of receiving from the buyer computer a request to exercise the option “with the buyer’s updated forecasted demand for the product.” In addition, Appellant notes that the cited portions of *Dictionary* contain no mention of “enforcing the terms of the option contract at the seller computer without user input.”

For at least these reasons, the combination of *Schmidt* and *Dictionary* fail to teach or suggest all elements of Claim 12. As a result, Claim 12 is patentable over the combination of *Schmidt* and *Dictionary*. At a minimum, Claims 13-18 are also patentable over the combination of *Schmidt* and *Dictionary* due to their dependence from an allowable claim.

G. CLAIMS 19-27 (GROUP 3)

Claims 19-27 (Group 3) stand rejected under 35 U.S.C. § 103(a), as being unpatentable over *Schmidt* in view of *Dictionary*. Appellant respectfully submits that Independent Claim 19 is patentable over *Schmidt* and *Dictionary*, and thus the remaining claims in Group 3, which depend from Claim 19, are also patentable over *Schmidt* and *Dictionary*.

Claim 19 recites a procurement manager operable to be executed on the processor of a buyer computer, which includes:

- a forecast module operable to determine the buyer's range of forecasted demand for a product;

- a negotiation module operable to communicate to a seller computer an offer to enter into an option contract for the supply of a product, the option contract including a proposed option corresponding to the range of forecasted demand, the negotiation module further operable to receive from the seller computer a modified range of forecasted demand, to communicate the modified range of forecasted demand to the forecast module, and to receive from the forecast module a compromised range of forecasted demand;

- an execution module operable to execute an option contract including an option corresponding to the compromised range of forecasted demand; and

- an exercise module operable to receive from the forecast module an updated forecasted demand within the compromised

range of forecasted demand and to communicate to the seller computer a request to exercise the option with the updated forecasted demand.

As described above, *Schmidt* and *Dictionary* fail to teach or suggest communicating “to a seller computer an offer to enter into an option contract for the supply of a product, the option contract including a proposed option corresponding to the range of forecasted demand,” executing “an option contract including an option,” and exercising “the option with the updated forecasted demand.”

In addition, *Schmidt* and *Dictionary* fail to teach or suggest a negotiation module that is “operable to receive from the seller computer a modified range of forecasted demand, to communicate the modified range of forecasted demand to the forecast module, and to receive from the forecast module a compromised range of forecasted demand.” *Schmidt* and *Dictionary* also fail to teach or suggest an execution module that is operable to execute an option contract including an option “corresponding to the compromised range of forecasted demand.”

As described above, *Schmidt* lacks any teaching or suggestion of communicating the terms of an option contract between two computers and allowing the computers to negotiate the terms of the contract. In particular, *Schmidt* fails to teach or suggest communicating a contract term to a seller computer, receiving a modified contract term from the seller computer, and determining a compromised contract term.

The VMR strategic planning module 252 of *Schmidt* may analyze financial and business requirements to evaluate different contract parameters. However, *Schmidt* fails to teach or suggest that a selected contract parameter is communicated to a customer, that the customer may communicate a modified contract parameter to the VMR strategic planning module 252, or that the VMR strategic planning module 252 determines a compromised contract parameter.

Similarly, the analysis tools, the component procurement policy development module, the various data spaces, and the production-sales-inventory function of *Schmidt* all fail to teach or suggest communication and negotiation of contract terms between a buyer computer and a

seller computer. None of these portions of *Schmidt* teach or suggest communicating “an offer to enter into an option contract,” receiving “a modified range of forecasted demand,” receiving from a forecast module “a compromised range of forecasted demand,” and executing an option contract including an option “corresponding to the compromised range of forecasted demand.”

Dictionary also fails to teach or suggest these elements of Claim 19. The cited portions of *Dictionary* make no mention of communicating “an offer to enter into an option contract,” receiving “a modified range of forecasted demand,” receiving “a compromised range of forecasted demand,” and executing an option contract including an option “corresponding to the compromised range of forecasted demand.”

For at least these reasons, the combination of *Schmidt* and *Dictionary* fail to teach or suggest all elements of Claim 19. As a result, Claim 19 is patentable over the combination of *Schmidt* and *Dictionary*. At a minimum, Claims 20-27 are also patentable over the combination of *Schmidt* and *Dictionary* due to their dependence from an allowable claim.

H. CLAIMS 28-37 (GROUP 4)

Claims 28-37 (Group 4) stand rejected under 35 U.S.C. § 103(a), as being unpatentable over *Schmidt* in view of *Dictionary*. Appellant respectfully submits that Independent Claim 28 is patentable over *Schmidt* and *Dictionary*, and thus the remaining claims in Group 4, which depend from Claim 28, are also patentable over *Schmidt* and *Dictionary*.

Claim 28 recites a supply manager operable to be executed on the processor of a seller computer, which includes:

- a forecast module operable to determine the seller's range of forecasted supply capacity for a product;
- a negotiation module operable to receive from a buyer computer an offer to enter into an option contract for the supply of a product, the option contract including a proposed option corresponding to a range of forecasted demand;
- an execution module operable to execute the option contract and to store the terms of the option contract in a memory accessible to the seller computer; and
- a tracking module operable to receive a request from the

buyer computer to exercise the option, to access the memory to determine the terms of the option contract, and to determine whether to grant the request to exercise the option.

As described above with respect to Group 2, *Schmidt* and *Dictionary* fail to teach or suggest receiving “an offer to enter into an option contract for the supply of a product, the option contract including a proposed option corresponding to the range of forecasted demand.”

As described above with respect to Group 1, *Schmidt* and *Dictionary* also fail to teach or suggest executing the option contract. As a result, *Schmidt* and *Dictionary* fail to teach or suggest “an execution module operable to execute the option contract and to store the terms of the option contract in a memory accessible to the seller computer.”

For at least these reasons, the combination of *Schmidt* and *Dictionary* fail to teach or suggest all elements of Claim 28. As a result, Claim 28 is patentable over the combination of *Schmidt* and *Dictionary*. At a minimum, Claims 29-37 are also patentable over the combination of *Schmidt* and *Dictionary* due to their dependence from an allowable claim.

CONCLUSION

Appellant has demonstrated that the present invention as claimed is clearly distinguishable over the prior art cited of record. Therefore, Appellant respectfully requests the Board of Patent Appeals and Interferences to reverse the final rejection of the Examiner and instruct the Examiner to issue a notice of allowance of all claims.

Appellant has enclosed a check in the amount of \$320.00 to cover the cost of this Appeal Brief. Appellant also requests a one-month extension of time for filing this Appeal Brief, and Appellant has enclosed a check in the amount of \$110.00 to cover the cost of this extension of time. Appellant does not believe that any additional fees are due. However, the Commissioner is hereby authorized to charge any additional fees or credit any overpayments to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,

BAKER BOTTS L.L.P.
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APPENDIX A

1. A method of optimizing multi-enterprise supply chain agreements using an electronic option contract, the method comprising:

- determining at a buyer computer a range of forecasted demand for a product;
- communicating from the buyer computer to a seller computer an offer to enter into an option contract for the supply of a product, the option contract including an option corresponding to the range of forecasted demand;
- executing the option contract;
- updating at the buyer computer the forecasted demand; and
- exercising the option in the option contract within the range of forecasted demand based on the updated forecasted demand.

2. The method of Claim 1, wherein the option comprises a range of parameters selected from a group consisting of:

- a minimum quantity of a product that the buyer is obligated to purchase, and a maximum quantity of the product that the seller is obligated to supply;
- a minimum number of product types that the buyer is obligated to purchase, and a maximum number of product types that the seller is obligated to supply; and
- a minimum number and a maximum number of locations where a product must be delivered.

3. The method of Claim 1, wherein the option comprises a plurality of ranges of parameters each selected from a group consisting of:

- a minimum quantity of a product that the buyer is obligated to purchase, and a maximum quantity of the product that the seller is obligated to supply;
- a minimum number of product types that the buyer is obligated to purchase, and a maximum number of product types that the seller is obligated to supply; and
- a minimum number and a maximum number of locations where a product must be delivered.

4. The method of Claim 1, wherein the option contract includes an exercise period comprising a period of time after the execution of the option contract during which the buyer must exercise its option.

5. The method of Claim 4, wherein exercising the option comprises:
specifying a first quantity of product desired at a first time during the exercise period;
specifying a second quantity of product desired at a second time during the exercise period;
and wherein the updated forecasted demand comprises the sum of the first and second quantities of product desired.

6. The method of Claim 1, further comprising:
receiving from the seller computer a modified range of forecasted demand comprising the range of forecasted demand modified by an optimization model at the seller computer; and
accepting the modified range of forecasted demand as a term to the option contract.

7. The method of Claim 1, further comprising:
receiving a proposed contract term from the seller computer;
accessing a memory comprising a range of acceptable contract terms; and
comparing the proposed contract term to the range of acceptable contract terms.

8. The method of Claim 7, further comprising:
determining that the proposed contract term is within the range of acceptable contract terms; and
accepting the proposed contract term without user input.

9. The method of Claim 7, further comprising:
determining that the proposed contract term is not within the range of acceptable contract terms; and
identifying the proposed contract term as a term requiring user input prior to acceptance.

10. The method of Claim 1, further comprising:
determining at the buyer computer a proposed option price comprising a value of the option to a buyer associated with the buyer computer;
communicating from the buyer computer to the seller computer the proposed option price;
and
negotiating with the seller computer an agreed option price based on the value of the option to the buyer and a cost of the option to a seller associated with the seller's computer.

11. The method of Claim 10, wherein negotiating an agreed option price comprises:
receiving from the seller computer a modified proposed range of forecasted demand comprising the proposed range of forecasted demand modified by an optimization model at the seller computer;
determining a modified proposed option price based on the modified proposed range of forecasted demand; and
communicating the modified proposed option price to the seller computer.

12. A method of optimizing multi-enterprise supply chain agreements using an electronic option contract, the method comprising:

receiving at a seller computer terms of an option contract from a buyer computer, the terms comprising an option corresponding to a buyer's range of forecasted demand for a product;
communicating to the buyer computer an acceptance of the terms of the option contract;
storing the terms of the accepted option contract in a memory accessible to the seller computer;

receiving from the buyer computer a request to exercise the option with the buyer's updated forecasted demand for the product; and

enforcing the terms of the option contract at the seller computer without user input.

13. The method of Claim 12, wherein the option comprises a range of parameters selected from a group consisting of:

a minimum quantity of a product that the buyer is obligated to purchase, and a maximum quantity of the product that the seller is obligated to supply;

a minimum number of product types that the buyer is obligated to purchase, and a maximum number of product types that the seller is obligated to supply; and

a minimum number and a maximum number of locations where a product must be delivered.

14. The method of Claim 12, wherein the option comprises a plurality of ranges of parameters each selected from a group consisting of:

a minimum quantity of a product that the buyer is obligated to purchase, and a maximum quantity of the product that the seller is obligated to supply;

a minimum number of product types that the buyer is obligated to purchase, and a maximum number of product types that the seller is obligated to supply; and

a minimum number and a maximum number of locations where a product must be delivered.

15. The method of Claim 12, wherein the option contract includes an exercise period comprising a period of time after the execution of the option contract during which the buyer must exercise its option, and wherein enforcing the terms of the option contract comprises:

receiving a request from the buyer computer to exercise the buyer's option comprising an identification of the buyer's exercised level of demand under the contract;

accessing the memory to retrieve the stored contract terms, including an exercise period begin date and an exercise period end date; and

comparing a current date to the exercise period begin date and the exercise period end date.

16. The method of Claim 15, further comprising:

determining that the exercise period has begun and has not expired; and

accepting the buyer computer's request to exercise the buyer's option.

17. The method of Claim 16, wherein the buyer computer's request comprises an identification of a first quantity of product desired, and further comprising:

storing the request for a first quantity of product desired in the memory;

receiving a subsequent request from the buyer computer to exercise the buyer's option comprising an identification of a second quantity of product desired;

determining that the exercise period has not yet expired; and

storing the request for a second quantity of product desired in the memory.

18. The method of claim 16, further comprising:

comparing the buyer's exercised demand level to a minimum obligation of the buyer under the contract; and

determining a penalty if the buyer's minimum obligation level exceeds the buyer's exercised demand level after the expiration of the exercise period.

19. A procurement manager operable to be executed on the processor of a buyer computer, the procurement manager comprising:

- a forecast module operable to determine the buyer's range of forecasted demand for a product;

- a negotiation module operable to communicate to a seller computer an offer to enter into an option contract for the supply of a product, the option contract including a proposed option corresponding to the range of forecasted demand, the negotiation module further operable to receive from the seller computer a modified range of forecasted demand, to communicate the modified range of forecasted demand to the forecast module, and to receive from the forecast module a compromised range of forecasted demand;

- an execution module operable to execute an option contract including an option corresponding to the compromised range of forecasted demand; and

- an exercise module operable to receive from the forecast module an updated forecasted demand within the compromised range of forecasted demand and to communicate to the seller computer a request to exercise the option with the updated forecasted demand.

20. The procurement manager of Claim 19, wherein the option comprises a range of parameters selected from a group consisting of:

- a minimum quantity of a product that the buyer is obligated to purchase, and a maximum quantity of the product that the seller is obligated to supply;

- a minimum number of product types that the buyer is obligated to purchase, and a maximum number of product types that the seller is obligated to supply; and

- a minimum number and a maximum number of locations where a product must be delivered.

21. The procurement manager of Claim 19, wherein the option comprises a plurality of ranges of parameters each selected from a group consisting of:

a minimum quantity of a product that the buyer is obligated to purchase, and a maximum quantity of the product that the seller is obligated to supply;

a minimum number of product types that the buyer is obligated to purchase, and a maximum number of product types that the seller is obligated to supply; and

a minimum number and a maximum number of locations where a product must be delivered.

22. The procurement manager of Claim 19, wherein the option contract includes an exercise period comprising a period of time after the execution of the option contract during which the buyer must exercise its option, and wherein the exercise module is further operable to specify a first quantity of product desired at a first time during the exercise period and to specify a second quantity of product desired at a second time during the exercise period, the buyer's obligation under the option contract comprising the sum of the first and second quantities of product desired.

23. The procurement manager of Claim 19, wherein the negotiating module is further operable to receive a proposed contract term from the seller computer, access a memory comprising a range of acceptable contract terms, determine that the proposed contract term is within the range of acceptable contract terms, and to accept the proposed contract term without user input.

24. The procurement manager of Claim 19, wherein the negotiating module is further operable to receive a proposed contract term from the seller computer, access a memory comprising a range of acceptable contract terms, determine that the proposed contract term is not within the range of acceptable contract terms, and to identify the proposed contract term as a term requiring user input prior to acceptance.

25. The procurement manager of Claim 19, further comprising an aggregation module operable to compare a buyer's aggregation of parameters with a seller's aggregation of parameters, and to transform at least one of the aggregations of parameters to conform with a common aggregation of parameters.

26. The procurement manager of Claim 19, further comprising an option price module operable to determine a proposed option price comprising a value of the option to a buyer associated with the procurement manger and to communicate the proposed option price to a seller computer, and wherein the negotiation module is operable to negotiate with the seller computer an agreed option price based on the value of the option to the buyer and a cost of the option to a seller associated with the seller's computer.

27. The procurement manger of Claim 19, further comprising a tracking module operable to store terms of the executed option contract and to track the buyer's fulfillment of its obligations under the option contract.

28. A supply manager operable to be executed on the processor of a seller computer, the supply manager comprising:

a forecast module operable to determine the seller's range of forecasted supply capacity for a product;

a negotiation module operable to receive from a buyer computer an offer to enter into an option contract for the supply of a product, the option contract including a proposed option corresponding to a range of forecasted demand;

an execution module operable to execute the option contract and to store the terms of the option contract in a memory accessible to the seller computer; and

a tracking module operable to receive a request from the buyer computer to exercise the option, to access the memory to determine the terms of the option contract, and to determine whether to grant the request to exercise the option.

29. The supply manager of Claim 28, wherein the option comprises a range of parameters selected from a group consisting of:

a minimum quantity of a product that the buyer is obligated to purchase, and a maximum quantity of the product that the seller is obligated to supply;

a minimum number of product types that the buyer is obligated to purchase, and a maximum number of product types that the seller is obligated to supply; and

a minimum number and a maximum number of locations where a product must be delivered.

30. The supply manager of Claim 28, wherein the option comprises a plurality of ranges of parameters each selected from a group consisting of:

a minimum quantity of a product that the buyer is obligated to purchase, and a maximum quantity of the product that the seller is obligated to supply;

a minimum number of product types that the buyer is obligated to purchase, and a maximum number of product types that the seller is obligated to supply; and

a minimum number and a maximum number of locations where a product must be delivered.

31. The supply manager of Claim 28, wherein the option contract includes an exercise period during which the buyer must exercise its option, and wherein the option contract comprises a maximum supply quantity that the seller has agreed to supply, and wherein the request to exercise the option comprises a first request for a first quantity of product desired, and wherein the tracking module is operable to store the request in the memory if a current date is within the exercise period and the first quantity is less than or equal to the maximum supply quantity.

32. The supply manager of Claim 31, wherein the request to exercise the option comprises a second request for a second quantity of product desired, and wherein the tracking module is operable to store the request in the memory if a current date is within the exercise period and the sum of the first and second quantities is less than or equal to the maximum supply quantity.

33. The supply manager of Claim 28, wherein the option contract comprises a penalty term specifying a penalty for a violation of the contract terms, and wherein the tracking module is operable to identify a violation of the contract terms and to assess a penalty for the violation based on the penalty term.

34. The supply manager of Claim 28, wherein the offer to enter into the option contract comprises a proposed term, and wherein the negotiation module is operable to access a memory comprising a range of acceptable contract terms, determine that the proposed contract term is within the range of acceptable contract terms, and to accept the proposed contract term without user input.

35. The supply manager of Claim 28, wherein the offer to enter into the option contract comprises a proposed term, and wherein the negotiation module is operable to access a memory comprising a range of acceptable contract terms, determine that the proposed contract term is not within the range of acceptable contract terms, and to identify the proposed contract term as a term requiring user input prior to acceptance.

36. The supply manager of Claim 28, further comprising an aggregation module operable to compare a buyer's aggregation of parameters with a seller's aggregation of parameters, and to transform at least one of the aggregations of parameters to conform with a common aggregation of parameters.

37. The supply manager of Claim 28, further comprising an option price module operable to determine a proposed option price comprising a cost of the proposed option to a seller associated with the supply manger and to communicate the proposed option price to the buyer computer, and wherein the negotiation module is operable to negotiate with the seller computer an agreed option price based on the value of the option to the buyer and a cost of the option to a seller associated with the seller's computer.

APPENDIX B
Schmidt Reference